CLAIMS:

1. A method for determining whether a factor is a modulator of the transmission of immunity to one or more antigens from a female mammal to newborn mammals by consumption of milk from the female, the method comprising:

(a) immunizing a first female mammal against the one or more antigens.

(b) exposing the first female mammal to the factor;

(c) causing the first female mammal to lactate;

(d) allowing a first group of one or more newborn mammals to consume milk obtained from the first lactating female;

(e) inoculating the first group of newborns with the one or more antigens; and

(f) comparing a level of immunity to the one or more antigens in the first group of newborns with a level of immunity to the one or more antigens in a second group of newborns that consumed milk from a second lactating female that was immunized against the one or more antigens but not exposed to the factor, a difference between the level of immunity to the one or more antigens in the first group of newborns and the level of immunity to the one or more antigens in the second group of newborns being indicative that the factor is a modulator of the transmission of immunity to the one or more antigens from a female mammal to newborn mammals by consumption of milk from the female.

2. The method of Claim 1, wherein the first group of newborn mammals consists of offspring of the first female mammal.

3. The method of claim 1, wherein the first female mammal is caused to lactate as a result of hormonal treatment or after parturition.

4. The method of Claim 1, wherein the one or more antigens causes a disease.

5. The method of Claim 4 wherein the disease is cancer.

6. The method of Claim 5, wherein the disease is lymphoma.

7. The method of Claim 6, wherein the lymphoma is non-Hodgkin's lymphoma.

8. The method of any one of the preceding Claims, wherein the female mammal is a rodent.

9. The method of Claim 8, wherein the rodent is a Balb/C mouse.

10. The method of Claim 9, wherein immunizing the first female mammal against the one or more antigens involves inoculating the first female with T-25-Adh cells.

11. The method of Claim 10, wherein comparing a level of immunity to the one or more antigens in the first group of newborns with a level of immunity to the one or more antigens in a second group of newborns is performed during or after termination of consumption of the milk obtained from the first or second lactating female.

12. The method of any one of the preceding Claims, wherein the factor is selected from the group comprising:

(a) an environmental factor;

(b) a chemical compound or a mixture of chemical compounds;

(c) a biological macromolecule;

(d) air pollutants

(e) direct or indirect cigarette smoke or smoke extracts;

(f) extreme oxygen pressures;

(g) ultraviolet or radioactive irradiation;

(h) radiation produced by cellular phones or communication antennas;

(i) a drug or pharmaceutical;

(j) an agricultural agent;

(k) an insecticides or pesticide

(l) a toxin;

(m) lead

(n) an agent of chemical warfare;

(o) a food additives;

(p) a nutritional factor

(q) a vitamin or dietary mineral;

(r) a psychological factor

(s) a stress causing or relaxing factor.

13. The method of Claim 11, wherein comparing a level of immunity to the one or more antigens in the first group of newborns with a level of immunity to the one or more antigens in a second group of newborns involves inoculation the first and second group of newborns with a tumorigenic cell line.

14. The method of Claim 13, wherein said tumorigenic cell line comprises Rev-2-T-6 cells.

15. A method for determining whether a factor is a modulator of the transmission of immunity to non-Hodgkin's lymphoma from a from a female Balb/C mouse to newborn mammals by consumption of milk from the female Balb/C mouse, the method comprising:

(a) inoculating a first female mouse with T-25-Adh cells so as to immunize the first female mouse to the non-Hodgkin's lymphoma;

(b) exposing the first female mouse to the factor;

(c)causing the first female mouse to lactate;

(d) allowing a first group of one or more newborn Balb/C mice to consume milk obtained from the first lactating mouse;

(e)inoculating the first group of newborn mice with a tumorigenic Rev-2-T-6 cell line which is capable of infiltrating into the eye, the central nervous system (CNS) of the first group of newborn, or to develop to systemic lymphoma; and

(f) comparing a level of immunity to the in the first group of newborns with a level of immunity to the non-Hodgkin's lymphoma in a second group of newborns that consumed milk from a second lactating female Balb/C mouse that was immunized against the non-Hodgkin's lymphoma but not exposed to the factor, a difference between the level of immunity to the non-Hodgkin's lymphoma in the first group of newborns and the level of immunity to the non-Hodgkin's lymphoma in the second group of newborns being indicative that the factor is a modulator of the transmission of immunity to the non-Hodgkin's lymphoma from a female Balb/C mouse to newborn Balb/C mice by consumption of milk from the female.

16. The method of Claim 15, wherein the first group of newborn Balb/C mice consists of offspring of the first Balb/C female mouse.

17. The method of Claim 15 or 16, wherein the first female mouse is caused to lactate as a result of hormonal treatment or after parturition.

18. The method of any one of Claims 15 to 17, wherein the first and second groups of newborn mice consume milk by suckling from the first and second female mouse, respectively.

19. The method of Claim 18, wherein the first and second groups of newborn mice are inoculated during or after termination of the suckling.

20. The method of any one of Claims 15 to19, wherein said factor is selected from the group comprising:

(a) an environmental factor;

(b)a chemical compound or a mixture of chemical compounds;

(c)a biological macromolecule;

(d)air pollutants

(e)direct or indirect cigarette smoke or smoke extracts;

(f) extreme oxygen pressures;

(g)ultraviolet or radioactive irradiation;

(h)radiation produced by cellular phones or communication antennas;

(i) a drug or pharmaceutical;

(j) an agricultural agent;

(k)an insecticides or pesticide

(l) a toxin;

(m) lead

(n)an agent of chemical warfare;

(o)a food additives;

(p)a nutritional factor

(q) a vitamin or dietary mineral;

(r) a psychological factor

(s) a stress causing or relaxing factor.

21. A method for modulating transmission of immunity to one or more antigens from a female mammal to newborn mammals by consumption of milk from the female, the method comprising exposing a female animal immunized to the one or more antigens to a modulator of the transmission of immunity to the one or more antigens from a female mammal to newborn mammals by consumption of milk for a time sufficient to induce modulation of the transmission of immunity against the antigens by consumption of milk, causing the immunized female mammal to lactate and allowing newborn mammals to consume milk from the lactating female mammal.

22. The method of Claim 21, wherein said immunity is transferred to the newborn by suckling from the immunized female mammal.

23. The method of claim 21 or 22, wherein the newborn is an offspring of the immunized female animal.

24. The method of Claim 21 or 22, wherein the immunized female mammal lactates as a result of hormonal treatment or after giving birth.

25. The method of any one of Claims 21 to 24 wherein the one or more antigens causes a disease.

26. The method of Claim 25, wherein the disease is cancer.

27. The method of Claim 26, wherein the cancer is lymphoma.

28. The method of Claim 27, wherein the lymphoma is non-Hodgkin's lymphoma.

29. The method of Claim 21, wherein the animal is a rodent.

30. The method of Claim 29, wherein the rodent is Balb/C mouse.

31. The method of Claim 30, wherein the rodent is inoculated with T-25-Adh cells.

32. The method of any one of Claims 21 to 31, wherein the factor is selected from the group comprising:

(a) an environmental factor;

(b)a chemical compound or a mixture of chemical compounds;

(c)a biological macromolecule;

(d)air pollutants

(e)direct or indirect cigarette smoke or smoke extracts;

(f) extreme oxygen pressures;

(g)ultraviolet or radioactive irradiation;

(h)radiation produced by cellular phones or communication antennas;

(i) a drug or pharmaceutical;

(j) an agricultural agent;

(k)an insecticides or pesticide

(l) a toxin;

(m) lead

(n)an agent of chemical warfare;

(o)a food additives;

(p)a nutritional factor

(q) a vitamin or dietary mineral;

(r) a psychological factor

(s) a stress causing or relaxing factor.

33. The method of Claim 32, wherein said tumorigenic cell line comprises Rev-2-T-6 cells.

34. A method of identifying agents which sensitize lymphoma cells against a drug, the method comprising:

(a) providing an animal host having lymphoma which infiltrated the eye of the animal;

(b) providing said animal host with a marker which infiltrates the lymphoma cells only upon sensitization of said cells to a chemotherapeutic drug;

(c)providing said animal host with said agent; and

(d) determining infiltration of said marker into said lymphoma cells, said infiltration indicting the sensitization of said cancer cells to chemotherapy by said agent.

35. The method of Claim 34, wherein said animal host has a multi-drug resistant (MDR) lymphoma and said method is for screening multi-drug resistant-reversing agents (MDR-reversing agent).

36. The method of Claim 35, wherein said animal host is obtained by inoculation of a healthy animal with tumorigenic cells transformed with MDR gene.

37. The method of Claim 34, wherein said animal is a rodent.

38. The method of Claim 37, wherein said rodent is Balb/C mouse.

39. The method of Claim 34 and 38, wherein said tumorigenic cells are T-25-Adh lymphoma cells transformed with a human MDR gene.

40. The method of Claim 34, wherein said marker is a fluorescent dye.

41. The method of any one of Claims 38 to 40, wherein said marker is provided to the animal by topical administration to the infiltrated eye.

42. The method of any one of Claims 38 to 40, wherein said agent is provided to the animal by topical administration to the infiltrated eye.

43. The method of Claim 39, wherein sensitization of the lymphoma cells to a chemotherapeutic drug is determined by detecting infiltration of the marker into the lymphoma cells, said infiltration indicates the circumvention of MDR.